

Standards Partnerships

100 Years of NIST and ASME Public/Private Partnering

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I would like to thank NIST for the opportunity to speak today in commemoration of their 100 years of partnering with the private sector technical and standards developing community.

In preparation for this Symposium, I looked into ASME's records and found that on Thursday, September 27th of the year 1900, ASME's governing body took an action which essentially read:

Resolved, that a committee of five be appointed by the chair to take such action as may be necessary in co-operation with the other national societies of kindred aim, with reference to the creation of a Bureau of Standards such as proposed by the action of the American Chemical Society... and the Institute of Electrical Engineers.

Less than six months later, on March 3, 1901, the National Bureau of Standards was chartered by the U.S. Congress. Now, unless Congress worked a lot faster than it does today, one can only surmise that these scientific organizations of "kindred aim" lent their support to a concept which was already in play—but it was the beginning of a century long partnership between NIST and the private sector community.

To realize the import of the establishment of the National Bureau of Standards, one needs to think of what life was like back in those times. At the turn of the previous century, the United States was still essentially a union of individual states. Public safety and interstate commerce were governed by a multitude of differing state and local ordinances. The industrial age was upon us and yet there was little or no standardization nor interchangeability of parts; and at an even more fundamental level there were no accurate standards of weights and measures. It was a time of rapid industrial growth "driven by the steam engine, the railroad, and the expanding reach of electricity" [ref. NIST at 100].

Standards

The establishment of national standards for electrical measurement, as well as length, mass, temperature, light, and time were essential to the industrial growth of this nation and its ability to provide for fairness in the marketplace. In the publication "NIST at 100," it states that "Measurements have a symbiotic relationship with science and technology. They depend on each other, and

if one advances, the other does too." How true a statement. From establishing a consistent set of weights and measures, to determining the speed of light, to measurement at the nano level, the ability to accurately measure has been fundamental to the advancement of science and technology.

Standardizing dimensions of products was among the earliest efforts of ASME—with the National Bureau of Standards participating in the development of fire hose threads and other pipe and screw thread standards. These standards may be taken for granted today but they were triggered by a 1904 fire in Baltimore which destroyed more than 1,500 buildings when the fire hose couplings from neighboring areas did not fit the fire hydrants. Standardization of screw threads, fasteners and pipe fittings were also among the earliest standardization activities within the International Organization for Standardization [ISO Technical Committee TC 1, 2 and 5, respectively.] Even today, ASME continues to maintain and update its standards on metrology; the most recent one is on nanometers (instruments for the measurement of surface roughness in the range of a billionth of a meter) here again, is an area in which NIST provided leading edge research.

Throughout the evolution of ASME's standards, scientists from NIST have served as members, bringing to the table the research results of the national institute in order to improve the private sector standardization of advances in technology and to fulfill the common goal of enhancement of public safety and well being.

As another example of public/private partnering, and in the interest of public safety, NIST conducted tests for elevator fire safety which ASME used in its elevator and escalator safety codes. Over the past century, NIST research in advancing knowledge of properties and behavior of materials, atomic physics, cryogenics, optics, electronics etc., and the participation of NIST scientists and researchers on voluntary consensus standards committees, have provided invaluable benefits to the nation's economy and the quality of life of its people. By placing new knowledge into the public domain for application in manufacturing, construction, transportation, aerospace, information technology, and biotechnology, the broadest benefits of federal funded research are realized. And through its incorporation into voluntary consensus standards, commercial realization of new advances by all sized enterprises is made possible.

The participation of individuals from NIST in the standards developing work of private sector organizations has been a vital element in the success of the U.S. private sector standards community.

Cooperative Research

In addition to Codes and Standards, the ASME Center for Research and Technology Development has also enjoyed successful cooperative efforts with NIST.

Some recent examples include:

- During 1994-1995, ASME and NIST (and 3 other organizations) were partners on the Gear Metrology Consortium.
- In 1998, NIST funded the ASME workshop, Changes in Manufacturing Practices for Fasteners.
- In 1999, NIST funded the forum, Innovation in Buildings' Mechanical and Electrical Systems.
- And, this September, NIST will host the meeting of the International Association for the Properties of Water and Steam in Gaithersburg, MD of which ASME is the U.S. member.

The incoming ASME Vice President of Research (a volunteer position) is an engineer at NIST.

Public Policy

Science and technology are no longer the domain of the scientific community—we need a knowledgeable public and a knowledgeable Congress if the U.S. is to maintain its economic growth and world leadership. Recognition of the importance of sufficient investment

in science and technology in order to maintain U.S. global competitiveness—and recognition of the importance of supporting the voluntary consensus process—which brings technological advances into the marketplace—can best be accomplished through public private partnering.

The National Technology Transfer and Advancement Act (PL104-113) was a major step in recognizing the value of the voluntary consensus process for standards development and the benefits derived from greater federal use of such standards.

Over the years, ASME has worked with NIST on issues of mutual interest before the U.S. Congress. This includes ASME annual testimony before Congress in support of NIST programs such as the Advanced Technology and Manufacturing Extension Programs.

In the area of international standardization, NIST has been an ally in articulating the issues relating to the need to ensure that U.S. interests are well represented in the international standardization area. As the central inquiry point for standards information in the United States under the WTO Technical Barriers to Trade Agreement, and as a go-to agency for advice on standards-related issues, NIST will have an ever growing impact on the governmental dialogues surrounding standards and international trade.

This partnering of government and private sector in the United States is the envy of industries around the world and it is being emulated by many nations, particularly those in the Pacific Rim. We should all be proud of what we have accomplished.

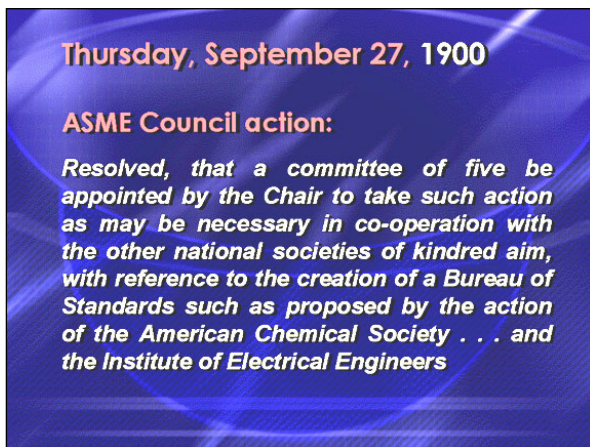
As a final note, let us here today commemorate the centennial anniversary of our National Institute of Standards and Technology—we all look forward to the strengthening of a 100-year-old relationship.



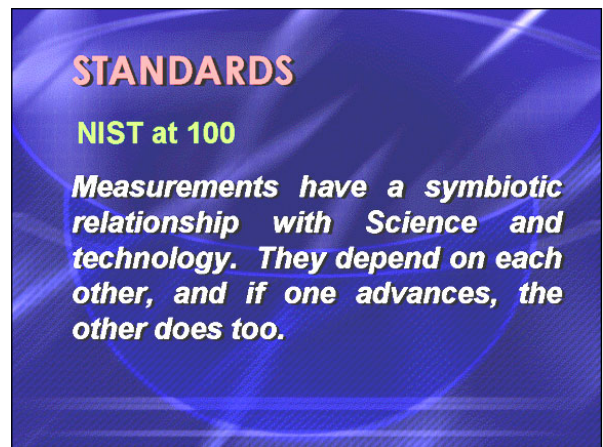
SLIDE 1



SLIDE 2



SLIDE 3



SLIDE 4



SLIDE 5



SLIDE 6

COOPERATIVE RESEARCH

NIST/ASME Center for Research and Technology Development

- ⇒ 1994-1995 Partners in Gear Metrology Consortium
- ⇒ 1998 NIST funded ASME workshop, Changes in Manufacturing Practices for Fasteners
- ⇒ 1999, NIST funded the forum, Innovations in Buildings' Mechanical and Electrical Systems
- ⇒ This Sept., NIST will host the International Assoc. for the Properties of Water and Steam

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PUBLIC POLICY

- ⇒ Need a knowledgeable public and U.S. Congress
- ⇒ Role of science and technology in maintaining global competitiveness
- ⇒ Standards brings technological advances into the marketplace
- ⇒ NTTAA - [PL 104-113]

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PUBLIC POLICY

- ⇒ ASME annual testimony before U.S. Congress
- ⇒ International standardization
- ⇒ Go-to public agency on standards related issues
- ⇒ A model for Public Private Partnership

SLIDE 9

WE COMMEMORATE THE
CENTENNIAL ANNIVERSARY
OF NIST AND WE LOOK
FORWARD TO THE
STRENGTHENING OF A 100
YEAR OLD RELATIONSHIP

SLIDE 10